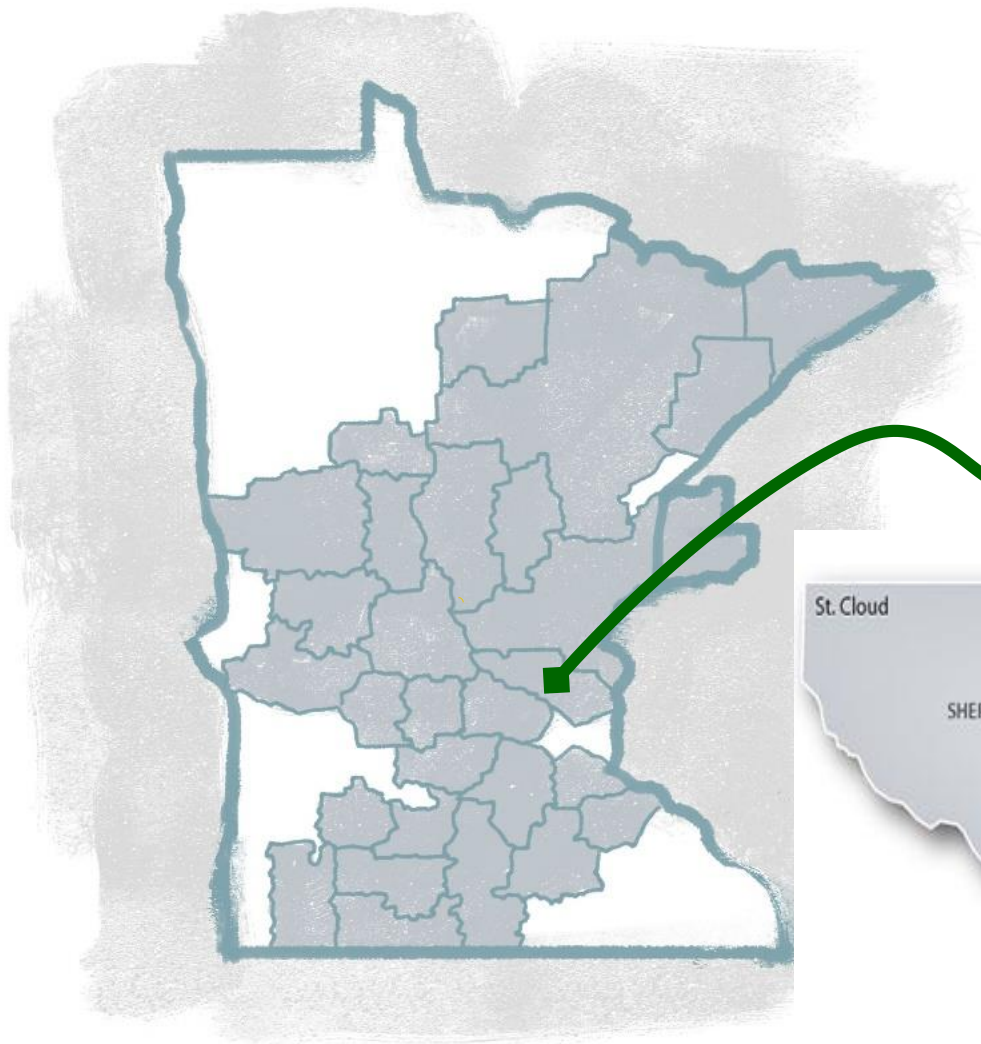


Energy Storage Use Case

“Distribution Grid Interconnected Solar”



Brian Burandt,
Vice President
Power Supply & Business Development
Connexus Energy

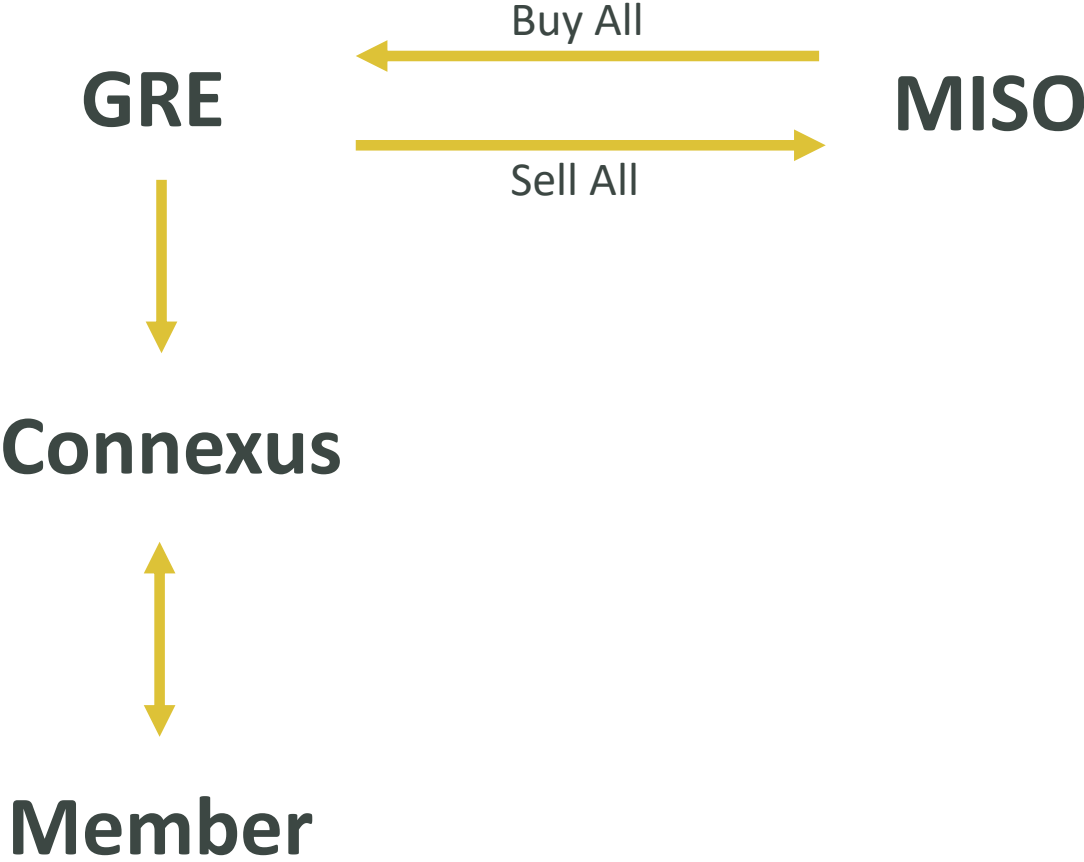


Connexus Energy



your most powerful membership™

MISO Participation

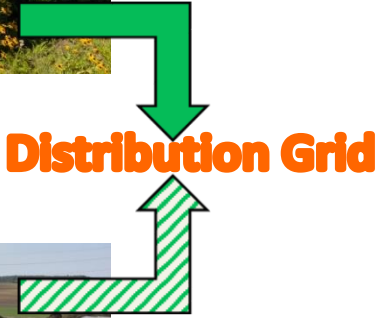


Project Overview – Solar + Storage

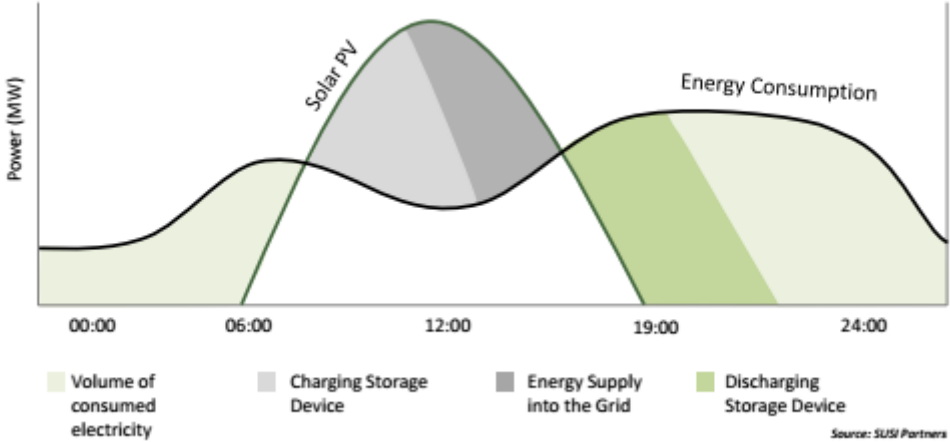
- **10 MW of Solar**
 - ~60 acres of land
- **15 MW of Storage for Demand Response**
 - 30 MWh (15 MW for 2 hours)
 - Lithium-ion Technology



Connexus Energy Use Case → Solar + Storage



*at MW Scale
on distribution grid
demand response design*



Project History and Schedule

- Strategic Planning – July 2016
- Secured Land Lease Options – 4Q16-1Q17
- RFPs
 - Solar released on March 31
 - Storage released on May 1
- Decision Process
 - Board selected SoCore Energy as the solar developer at the July meeting
 - Board selected NextEra Energy as the storage developer at the September meeting
- Commercial Operation Date
 - Summer 2018



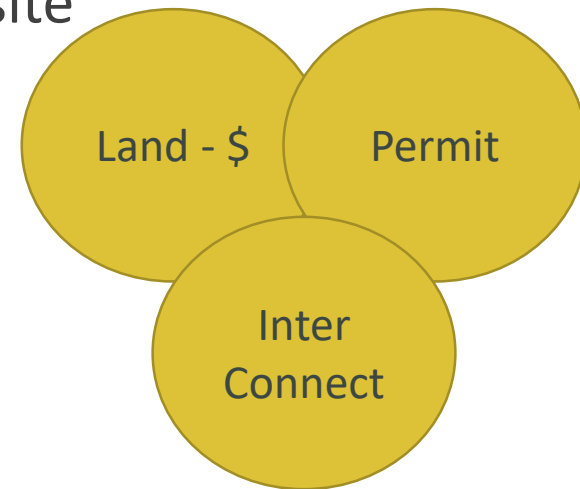
Expected Key Business Terms & Conditions

- *Pay as You Go*
- Solar – Power Purchase Agreement
 - 25-year term
 - Only pay for the energy received
 - Includes operations and maintenance, land lease, interconnection, and site development
- Storage – Storage Service Agreement
 - 25-year term
 - Only pay for the service received
 - Includes operations and maintenance, land lease, interconnection, and site development



Site Identification

- Considerations
 - Interconnection quantification per site
 - MW of solar
 - MW of storage
 - Land costs (\$/acre)
 - Interconnection costs
- Zoning/Permitting
 - Permitting requirements vary from pro-solar to specifically prohibiting community solar



National Sports Center Site

- Closed Construction Waste Landfill
 - 40 acres
 - 23 acres are buildable for solar + storage
- Interconnecting Substations
 - Airport
 - Lexington



Anoka County Site in Ramsey

- Former Mississippi River Crossing site
 - 18.6 acres available for solar + storage in Ramsey
- Interconnecting Substations
 - Daytonport
 - Energy Park



City of St. Francis Site

- Former Wastewater Treatment Pond Area
 - ~17 acres for solar+ storage
- Interconnecting Substation
 - St. Francis



Drivers and Aspirations

- Battery storage enhances a greener energy economy
 - Improves renewable economics
 - Localized investment
 - Supportive of state energy policies
- “*Green the grid*” without increasing member rates
 - Surprising synergies ... pollinator and monarch habitat
 - Utilization of land with limited other uses
- Grid modernization
 - Facilitates integration of emerging technologies; e.g. EV
 - Enhances grid resiliency and event response
 - Potentially defers some distribution investment over long run

